PROJECT MANGEMENT PLAN EXAMPLES

Safety Integration - Approach to Meeting Requirements Examples

Example 26

9.2 HEALTH AND SAFETY STRATEGY

B Plant has integrated safety into its management, planning and work practices in order to protect the public, the environment and facility workers against nuclear and non-nuclear hazards associated with facility transition. Based upon the principles of DNFSB Recommendation 95-2, the Plant's approach to safety management includes:

- Applicable. standards and requirements specifically identified and implemented
- Safety integrated into baseline and detailed planning
- Workers and trained safety professionals use a team approach in hazard identification, analysis and control
- Graded approach used to tailor controls based upon hazard type and severity
- Hazard control integrated into work processes
- Safety management process integrates implementation of the various environmental, safety and health protection programs.

The key feature of the program is integration of safety management into all aspects of the project. The facility Standards/Requirements Identification Document (S/RID) management system provides a framework for compliance with applicable requirements. Initial planning includes screening for significant hazards and provisions for adequate analysis into baselines. Detailed planning and execution are accomplished by the multi-disciplined work teams in concert with experienced safety professionals. Through this integrated approach, B Plant effectively accomplishes its highest priority: safety protection.

In conjunction with the site-wide implementation of DNFSB 90-2, B Plant has developed an inventory of safety related requirements applicable to the plant. These requirements are listed in WHC-SD-MP-SRID-005, *B Plant Standards/Requirements Identification Document,* and implemented in various site and facility specific manuals and procedures. These implementing procedures provide a framework to ensure that work within the facility is accomplished in a manner consistent with the authorization basis.

9.2.1 Safety Basis Evaluation of Activities

Beginning early in the planning stage, deactivation activities are evaluated with respect to the approved safety basis to identify any potential "unreviewed safety questions" (USQs). If the activity is covered by the analysis in the safety basis, no additional safety basis documentation or evaluation is required. If the activity is not covered, then either the work plans must be modified to stay within the bounds of the existing safety basis or the safety basis must be modified through additional safety analysis. Once approved by RL, the new analysis would become part of the approved safety basis. Prior to transition, the B Plant safety authorization basis was contained within the following documents:

- WHC-SD-WM-SAR-013, "B Plant Safety Analysis Report"
- WHC-SD-WM-SAR-008, "212B Cask Station Facility Hazards Identification and Evaluation"
- WHC-SD-WM-TI-554, "B Plant Exhaust Filter Outlet Seal Analysis."

A new safety basis has been prepared which better reflects activities and the hazards associated with facility transition. This new "Basis for Interim Operation," or BIO, analyzes credible radiological and non-radiological accidents in order to identify restrictions and operating controls appropriate for transition activities. The new safety basis consists of the following documents:

- WHC-SD-WM-ISE-008, "B Plant Interim Safety Basis"
- WHC-SD-WM-SARR-030, "B Plant Interim Safety Basis Accident Analysis"
- WHC-SD-WM-TM-004, "B Plant Facility Description"
- "Safety Evaluation Report for the B Plant Basis for Interim Operation"

RL approved the first 3 above documents on October 25, 1996, adding its own safety evaluation to constitute a new safety authorization basis (SAE). Once the new SAE is fully implemented, BWHP will request relief from the provisions of the obsolete SAE documents.

The facility safety basis includes other documents which supplement the safety authorization basis. For example, the *Fire Hazards Analysis for B Plant,* WHC-SD-WM-FHA-02 1, provides a detailed review of fire protection requirements. The *B Plant Facility Safety Equipment List,* HNF-SD-WM-SEL-041, describes equipment important to plant safety as it relates to the accident analysis in the BIO.

The USQ process will continue to be used to ensure that deactivation activities are conducted within the bounds of the safety basis. As new deactivation activities are undertaken, the work plans will either be modified to satisfy the requirements of the updated

safety basis or new analyses will be performed and incorporated into the safety basis to ensure adequate safety of transition activities.

9.2.2 Assessment of Hazards

Upon completion of the above safety basis evaluation, proposed deactivation activities will be evaluated for hazards and appropriate hazards mitigation measures will be incorporated into work plans.

Activity specific hazards screening and evaluation is performed for each work activity (or major work task) by the multi-disciplined team assigned the work. The screening will identify the characteristics of the task (complexity, hazard, process, etc.), the experience base at the plant for this or similar tasks, the real and/or perceived risks involved with the task, and the questions related to potential problems/accidents that could occur during the task. The screening will be performed using an automated Qualitative Job Analysis (QJA) tool, which provides a Preliminary Hazards/Screening Assessment (PHSA) as its initial screen.

This preliminary screen will provide the basis for the identification of the appropriate level of additional analysis/evaluation. Using the information on the PHSA form, the team will apply a graded approach to select the appropriate level of hazard analysis to be performed on the work activity:

Level 1 The minimal analysis (Level 1 - low risk/consequence) will involve completion of a hazards checklist and review/approval of the proposed work activity, as warranted by the hazards identified. If the work steps are covered by an existing, approved procedure, the team will review the procedure and the site conditions to ensure that the hazards associated with the work have been adequately addressed. If so, the team need not complete the checklist.

Level 2 The intermediate level of analysis (Level 2 - medium risk/consequence) involves completion of the Qualitative Job Analysis (QJA). The QJA is performed by a small team (includes cognizant engineer, appropriate safety and environmental professionals, training representative, facility workers, and team lead) who review the proposed work activity section by section and identify any specific hazards associated with the completion of each procedure section. The team also identifies any programs or systems that are particularly critical to the safe execution of the proposed work activity and makes recommendations as to the appropriate controls and/or reviews necessary to prevent, control, or mitigate the identified hazards. These controls are then incorporated into job planning.

Level 3 The highest level of analysis (Level 3 - high risk/consequence) requires the performance of a more formal and detailed hazards analysis technique, (i.e. Hazards and Operability Study, Preliminary Hazard Analysis, or equivalent) in addition to following existing requirements and procedures. This analysis will be performed by a team similar to the QJA team with the addition of a qualified, experienced, hazards analyst. The team will include in their evaluation a review of the S/RIDs functional areas, on an item by item basis, to determine any critical programs or systems for the safe execution of the proposed work activity. The team will then make recommendations regarding the necessary controls to prevent, control, or mitigate the identified hazards.

9.2.3 Worker Safety

In addition to the hazards assessment program described above, a Comprehensive Baseline Hazards Assessment of the B Plant facility has been performed by BWHC safety professionals to examine all areas of the facility and determine the hazards in those areas.

This information will be used and expanded during 1996 to develop hazards recognition training for B Plant employees. This training will focus on hazard identification and how to safely plan and perform work activities within the facility.

The addition of a facility hazards baseline assessment and hazards recognition training will provide additional assurances that worker safety issues are identified as early as possible in the work development process. This will result in early identification of necessary controls to prevent or mitigate worker hazards and aid in the timely completion of the transition effort by reducing the number of injuries or work related safety issues.

Example 27

8.01 Regulatory Strategy and Special Regulatory Requirements

There are many waste management and environmental regulations that impact the deactivation projects at SRS. Significant environmental drivers include: the National Environmental Protection Act (NEPA), the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Clean Air Act, the Clean Water and Safe Drinking Water Acts, and the National Historic Preservation Act (NHPA). The following summarizes the regulatory framework and management strategy for the 322-M Deactivation Project.

RCRA/CERCLA

RCRA, as amended (12 U.S.C., sec. 6901 et seq.), regulates the generation, transportation, storage, treatment, and disposal of solid and hazardous waste. The RCRA provisions govern cleanup of hazardous waste constituents released to the environment from hazardous or solid waste management units. The 322-M Facility contains no treatment, storage or disposal (TSD) units. Therefore, the RCRA regulations do not apply except as a generating facility.

The Savannah River Site was placed on the National Priority List (NPL) in December 1989 and became subject to comprehensive remediation in accordance with CERCLA. The Federal Facilities Agreement (FFA), effective August 1993, establishes requirements for site investigation and remediation of releases and potential releases of hazardous substances. Appendix C of the FFA lists RCRA/CERCLA Units, and Appendix G.1 lists Site Evaluation Areas.

SRS has an integrated RCRA/CERCLA Program for compliance with these requirements. Remedial Actions under the RCRA/CERCLA Program are the responsibility of the Environmental Restoration Division, and consequently are not in the scope of this plan. Reference #21 describes restrictions on operations and maintenance activities as it relates to these areas. It prescribes requirements for "intrusive activities", which are defined as activities that disturb soil. Although this plan does not envision any activities of this type, work planners will be aware of these requirements.

National Environmental Protection Act

A review and documentation process was promulgated under 10 CFR 1021 and 40 CFR 1508.27 to comply with NEPA which requires all federal agencies to identify and evaluate the environmental impacts associated with proposed actions that may significantly affect the environment. The DOE executes the NEPA process pursuant to DOE Order 5440.1E, Chapter V. NEPA requirements vary depending on the scope and size of the proposed action. But in any case, the NEPA review and documentation process must be completed before beginning detailed design, procurement, construction, operation, testing, or any action that may be prejudicial to the NEPA decision-making process.

At the SRS, the NEPA process starts with the identification of a proposed action or site project. The project sponsor prepares an Environmental Evaluation Checklist (EEC) for the project or proposed action that:

- would initiate a new process,
- would change an existing process,
- would fall outside the scope of maintaining normal operations, or
- could potentially result in an environmental impact.

The EEC is submitted to the Department NEPA Coordinator (DNC). The DNC evaluates the EEC to determine if the proposed action:

- meets the criteria in Appendix A or B of 10 CFR 1021 for a categorical exclusion (CX),
- requires the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS), or
- is covered by a previously issued CX, EA, or EIS.

The DNC forwards the evaluation to the Site NEPA Coordinator (SNC) for review. The SNC decides on a final recommendation that is forwarded to the DOE-SR NEPA Compliance Officer (NCO) for a final decision. The DOE-SR NCO reviews the recommendation and either concurs or requires an alternative

course of action. Based on the DOE-SR NCO decision, the DNC will issue to the project sponsor either a Notice of NEPA Approval (NONA) if the proposed action can be categorically excluded or is covered by a previous CX, EA or EIS. A Notice of Further NEPA Action (NOFNA) that will mandate the preparation of an EA or EIS will be issued in all other cases.

Clean Air Act

Section V of the Clean Air Act of 1977 (CAA), adopted in the 1990 amendments to the CAA, establishes a federal permitting program, which will be administered by the states. Any "major source" of criteria pollutants or of hazardous air pollutants is required to obtain a permit to operate the source.

All new activities, construction or modifications at the 322-M Facility that have the potential for increasing radioactive air emissions are required to be described on the Environmental Evaluation Checklist.

After the technical bases for the deactivation activities are prepared and specific activities identified, the activities will be evaluated for their potential to increase emissions to the atmosphere. Using the EEC, the project manager, the Environmental Coordinator, and the Environmental Protection Department representative will report air emissions sources and prepare the permit applications in accordance with the guidance in the SRS Clean Air Act Manual.

Clean Water Act/Safe Drinking Water Act

The Clean Water Act of 1977 (CWA) requires any source that discharges a "pollutant" into a surface water body to obtain and operate in compliance with a National Pollution Discharge Elimination System (NPDES) permit. The CWA includes radioactive materials in its definition of pollutant (33 U.S.C. 1362 (6)). However, the EPA has interpreted "pollutant" to exclude radioactive materials regulated under the Atomic Energy Act of 1954 (AEA). The CWA applies to naturally occurring and accelerator-produced radioisotopes and does not apply to source, special, or byproduct materials as the AEA defines those terms.

6.01 Work Specification and Planning with Safety Standards and Requirements

The selected end points described in this plan have been chosen to incorporate site requirements under a graded approach to compliance, whereby the extent and documentation of measures taken are commensurate with the nature and magnitude of the hazards involved. The health and safety requirements, enumerated in the S/RIDs (Reference #10) are translated into direction for workers via the procedures contained in the WSRC corporate manuals. The linkage between S/RIDs and the corporate procedures is documented in the Compliance Assessment and Implementation Reports (CAIRs), and will not be repeated here. All work will incorporate the core principles of Integrated Safety Management.

6.01.03 Review of Scope of Work Against S/RIDs

The selected end points described in this plan have been chosen to incorporate site requirements under a graded approach to compliance, whereby the extent and documentation of measures taken are commensurate with the nature and magnitude of the hazards involved. The health and safety requirements, enumerated in the WSRC S/RIDs (Reference #10) are translated into direction for workers via the corporate manuals. The linkage between S/RIDs and the corporate procedures is documented in the CAIRs. The following table identifies particular requirements, both safety-related and administrative, that will be incorporated into the work scope end point definitions and work plans for the 322-M Deactivation:

Requirement	Implementing Standard
Property Management and Disposal	WSRC 3B, Chapters 4 and 5
Site Clearance Permit	WSRC 1D, Procedure 3.02
Preparation of Procurement Specifications	WSRC 3E
SSC Identifications in Master Equipment List	WSRC 7E, Procedure 2.02

Fire Hazards Analysis	WSRC 2Q, Procedure 3.0
Control of Hot Work and Hot Work Permits	WSRC 2Q, Procedure 5.4
Control of Transient Combustibles	WSRC 2Q, Procedure 5.5
Permanent Deactivation of the Fire Protection System	WSRC 2Q, Procedure 5.6
NPDES Permit Modification	WSRC 3Q, ECM 2.1
Modifications (Isolation) of Toilets	WSRC 3Q, ECM 2.7, 2.9
Modifications (Isolation) of Domestic Water System	WSRC 3Q, ECM 3.12
Discontinuation of Stack Monitoring	WSRC 3Q, ECM 4.5, 4.7, 18.2
Handling/Disposal of Refrigerants	WSRC 3Q, ECM 4.13
Identification of Hazardous Wastes	WSRC 3Q, ECM 6.3
Container Usage and Disposal	WSRC 3Q, ECM 6.10
Disposal/Removal of Asbestos	WSRC 3Q, ECM 6.18 WSRC 4Q, IH-201
Disposal/Removal of Lead	WSRC 3Q, ECM 6.20 WSRC 4Q, IH-208
Disposal of Chemicals No Longer in Use	WSRC 3Q, ECM 6.25 WSRC 4Q, IH-302
Radiological Work Control	WSRC 5Q, Chapter 3
Handling Radioactive Materials	WSRC 5Q, Chapter 4
Handling Radioactive Sources	WSRC 5Q, Chapter 4, Part 3
RadCon Operations Support	WSRC 5Q, Chapter 5
Ladders and Scaffolds	WSRC 8Q, Procedure 16
Danger, Caution and Warning Tags	WSRC 8Q, Procedure 31
Hazardous Energy Control (Lockout/Tagout)	WSRC 8Q, Procedure 32
Confined Space Entry	WSRC 8Q, Procedure 33
Work Clearance Permits	WSRC 8Q, Procedure 35
Alteration to Process Ventilation Systems	WSRC 8Q, Procedure 37
Job Hazard Analysis	WSRC 8Q, Procedure 38
Powered Industrial Lift Truck Safety	WSRC 8Q, Procedure 42
Final Acceptance Inspection of New, Altered, or Discontinued Facilities or Equipment	WSRC 8Q, Procedure 51
Removing and Replacing Floor Grating, Manhole Covers, and Deck Plates	WSRC 8Q, Procedure 73
Floors, Wall Openings and Stairways	WSRC 8Q, Procedure 107
Materials Handling, Storage, Use, and Disposal	WSRC 8Q, Procedure 109
Generation, Review and Approval of Safety Documents	WSRC 11Q, Procedure 1.01
Transportation of Hazardous Materials	WSRC 19Q, Procedures 1.02, 1.06, 2.01, 2.04
Transportation of Radioactive Materials	WSRC 19Q, Procedures 1.04, 2.02, .03

Waste Disposal	WSRC 1S
Work Management and Control	WSRC 1Y, Procedures 2.03, 8.01